



THE STATE
of **ALASKA**
GOVERNOR MIKE DUNLEAVY

Department of Natural Resources

DIVISION OF OIL AND GAS

550 W. 7th Avenue Suite 1100
Anchorage, Alaska 99501-3560
Main: 907.269.8800
Fax: 907.269.8939

February 23, 2023

Ashley Gilbert
Accumulate Energy Alaska, Inc.
1300 Post Oak Blvd Ste 2400
Houston, Texas, 77056

RE: LONS 22-009, Accumulate Energy Alaska, Inc., Hickory 1 Exploration Well, Lease Plan of Operations Decision Exploration Phase

Dear Mr. Gilbert:

I. INTRODUCTION

On November 16, 2022, Accumulate Energy Alaska, Inc. (Applicant) submitted a request to the Division of Oil and Gas (Division) for approval of a Lease Plan of Operations (Plan) to carry out the Hickory 1 Exploration Well Project (Hickory 1). Hickory 1 is approximately 30 miles south of Deadhorse. Approval of this Plan, along with approvals from other state and federal agencies (Agencies), is necessary for Accumulate Energy Alaska, Inc. (AEA) to carry out the project. Any further exploration is subject to additional review and approval by the Department of Natural Resources (DNR).

After state land is leased for oil and gas development, projects follow a phased progression. These phases include exploration, development, and transportation. The Division continually examines effects of oil and gas activities as projects transition through each phase. Before the next phase of a project may proceed, the Division must provide notice to the public and the opportunity to comment before issuing a decision. AEA's proposed operations would begin the exploration phase for oil and gas lease ADL 392314.

II. SCOPE OF DECISION

The DNR Commissioner has delegated authority for approval of Lease Plan activities to the Division under Department Order: 003 in accordance with Alaska Statute (AS) 38.05 and 11 Alaska Administrative Code (AAC) 83.158. As set forth below, the Division has evaluated the proposed Plan to determine if it provides sufficient information as required by 11 AAC 83.158. In approving a Plan, the Division may require amendments that it determines are necessary to protect the State's interests (11 AAC 83.158(e)).

The following Plan elements require authorization from other agencies:

Alaska Oil and Gas Conservation Commission (AOGCC)	Permit to Drill
AOGCC	Sundry Approval – Annular Disposal
AOGCC	Blowout Contingency Plan
DNR/ Mining, Land and Water (DMLW)	Temporary Water Use Authorization
DNR/ Office of History and Archaeology (OHA)	State Historic Preservation Office (SHPO) Determination
Department of Environmental Conservation (DEC)/DW-APDES	Alaska Pollutant Discharge Elimination System (APDES)
DEC/AQ	MGP1 Air Quality Permit for Land Drill Rigs
DEC/SPAR	Oil Discharge Prevention and Contingency Plan (ODPCP) 20-CP-5241
DEC/EH	AEA SW Management Plan
NSB/Planning	NSB Traditional Land Use Inventory (TLUI) Certificate of Clearance
NSB/Planning	NSB Development Permit
Alaska Department of Fish and Game (ADF&G)/DH	Title 16 Fish Habitat
ADF&G/PS	Public Safety Permit
United States Army Corps of Engineers (USACE)	CWA Section 404
Department of Transportation and Public Facilities (DOTPF)	Driveway/Approach Road ROW Permit (ADL 63826)

III. LAND STATUS

The project area comprises state lands.

- A. Division's Leased Lands: This section refers to Division managed oil and gas leases regardless of ownership of overlying surface lands.

Oil and Gas ADL: ADL 392314

Oil and Gas Mineral Estate Lessee(s): Accumulate Energy Alaska, Inc.

Surface Ownership and Access Agreement: State of Alaska

Special Use Lands: ADL 50666

Jointly Managed Lands: None

Other Considerations: North Slope Area Plan

Project Components	Meridian, Township, Range, and Section(s)	GPS Coordinates
Hickory 1 Pad and Well	Umiat, T005N, R014E, Sec 19	69.77933N, -148.71768W

IV. PROPOSED OPERATIONS

The Plan describes the proposed operations in full detail. The key details are summarized below.

A. Sequence and Schedule of Events

Project Milestone #	Project Milestone	Proposed Start Date	Proposed End Date
1	Mobilize Drill Rig	2/25/2023	3/8/2023
2	Drill and Evaluate Hickory 1	3/1/2023	4/5/2023
3	Demobilize drill rig, camp and support operations	4/5/2023	4/30/2023
4	Cleanup, remediate ice infrastructure – pad and road areas	7/1/2023	8/20/2023

B. Well Sites

The Hickory 1 well will be located approximately 30 miles south of the Deadhorse within Alaska's North Slope. The pad will be located 400 feet west of the Dalton Highway, approximately 0.3 miles south of milepost 382. The well will be situated on a 600-foot by 600-foot ice pad, for a total of 8.26 acres, and connected to the Dalton Highway by a 500-foot-long ice road. The ice pad and road are expected to be built two to three feet thick. The road is expected to be roughly 500 feet in length and 35 feet in width, for a total of approximately 0.4 acres. The total ice footprint will be approximately 8.66 acres. The final configuration of the road and pad may be slightly modified to account for on-site conditions. The Hickory 1 Plan is derived from relevant drilling and geological data obtained from seismic data, as well as from historical offset wells in the surrounding area. Drilling will begin once rig-up operations are completed and necessary approvals are obtained. Using a Nordic 2 or similar rig, the Hickory 1 well will be drilled to a vertical depth of 13,000 feet through various hydrocarbon zones of interest, with the deepest zone being the Kuparuk sands. The formations will be logged and sidewall cores may be taken in specific zones of interest as needed. At the end of the project the Hickory 1 well will be plugged and abandoned, or suspended in accordance with AOGCC requirements.

C. Buildings

All structures required to complete the Hickory 1 project will be temporary. Facilities located on the drill ice pad to support the Hickory 1 project will include a camp, storage and laydown areas, communication tower and connexes, and maintenance shops. The camp will be equipped with offices, a medic/camp clinic, bathroom facilities, dining area, kitchen and food storage facilities, recreation area, and laundry facilities.

D. Fuel and Hazardous Substances

Ultra-low sulfur diesel fuel will be trucked to the drill pad by commercial carrier for operations. To minimize the space needed on pad, an on-site tanker truck will fuel ancillary equipment such as heaters, light plants, and heavy equipment. Four 9,980-gallon tanks will be kept on pad for fuel as needed. Fuel and/or hazardous substance storage will comply with state and federal oil pollution prevention and contingency requirements found in 18 AAC 75, 40 CFR 112, and NSBMC § 19.50 and § 19.70. Above-ground storage tanks used to store flammable and combustible liquids are regulated by the EPA and will comply with the International Fire Code

and 13 AAC 50.025. Additionally, fuel storage, handling, transfers, and spill reporting will be conducted in accordance with AEA's ODPCP, which has been approved by the ADEC as Plan No. 20-CP-5241, and the North Slope Environmental Field Handbook and the Alaska Safety Handbook (ASH). All bulk hazardous fluid and fuel transfers will be conducted in accordance with the fluid transfer guidelines in AEA's Fluid Transfer Checklist (found in Appendix A of ADEC 20-CP-5241).

Several commonly used water-based mud drilling fluids and additives will be utilized to maintain the correct drilling mud formulation for the conditions being drilled. Other drill fluid chemicals required for well stimulation may also be utilized. The various additives are provided in 5-gallon pails, 55-gallon drums or a variety of different sized (250-400 gallon) ISO containers that are regulated by the USDOT and/or EPA and will be stored within secondary containment areas. All secondary containment areas are inspected daily by the on-site spill technician. All unused products will be returned to the supplier. All used fluids will be disposed of in accordance with AEA's Waste Management Plan and other applicable guidance documents and contract/ballot agreements.

During fuel and fluid transfer operations, and equipment storage or maintenance activities, the site will be protected from leaking or dripping fuel and hazardous substances by using drip pans or other surface liners designed to catch and hold fluids under the equipment or by creating a specialized area using an impermeable liner or other suitable containment mechanism. Appropriate spill response equipment will be staged on location and managed by an on-site spill technician contracted through Alaska Chadux Corporation. Trained spill technicians and fuel contractor personnel, operating under the Fluid Transfer Procedures, will attend all fuel and fluid transfer operations. A copy of ADEC 20-CP-5241 (or most recent plan update) will be kept on-site for guidance in controlling and cleaning up any accidental discharges of fuels, lubricants, or produced fluids.

The plan will include immediate response actions, reporting requirements, communication trees, receiving environments, spill cleanup mobilization response times, well control information, and spill prevention guidance. Information related to immediate response actions, receiving environments, spill cleanup mobilization response times, and well control can be found in the ADEC 20-CP-5241. AEA also has an approved Spill Prevention Control and Countermeasure (SPCC) Plan for tanks to be operated at exploration sites, which will be amended to include Hickory 1 if necessary. The drilling contractors will develop and provide SPCC plans specific for their operations in support of the drilling operations. The plans will be maintained and available on-site. Contractor crews will be trained in the appropriate response and prevention strategies.

E. Solid Waste Sites

All waste management activities will be conducted in general accordance with the AEA Hickory Project Waste Management Plan and in conformance with AEA HSE Management Policies. Additionally, the latest versions of the ASH, the North Slope Environment Field Handbook, and the Alaska Waste Disposal & Reuse Guide are adopted as guidance, reference, and standard operating procedures and workplace "best" safety, environmental and waste management practices for AEA operations. Four waste streams exempt from regulation as Resource Conservation and Recovery Act (RCRA) hazardous wastes per 40 CFR 261.4 and 261.7 will be generated during operations. These include: 1) produced fluids and solids from drilling

operations); 2) residue and rinsate found in “RCRA empty” containers; 3) household hazardous wastes; and 4) domestic wastewater from camps and envirovacs.

Up to 4,000 barrels of drilling wastes will be generated during drilling, and hauled and disposed by injection off-site in either Class I or Class II UIC disposal wells. AEA does not intend to store drilling waste on site. Non-oily E&P solid drill cuttings may also be hauled to the NSB-SA-10 landfill for beneficial reuse as sanitary cover if acceptance criteria are met. All methods will be managed and tracked using North Slope Manifest procedures. Residue and tank rinsate found in RCRA-empty tanks and vessels will be manifested, hauled, and disposed of by injection in off-site Class I or II disposal injection wells as they are generated at tank wash bays after drilling operations.

RCRA-exempt household hazardous wastes generated from camp operations will be combined with domestic wastewater and temporarily stored in the camp sewage tank modules before being hauled to the NSB-SA-10 wastewater treatment plant for disposal. The camp is expected to generate less than 3,000 gallons per day of domestic wastewater and less than one gallon per day of household hazardous wastes.

Nonhazardous solid waste will be stored on site in Municipal Solid Waste and Construction and Demolition dumpsters that will be hauled to the NSB SA10 landfill. Dumpsters will be covered to avoid potential wildlife interactions. Metal will be collected and sent off-site for recycling. Oily waste will be stored on-site until transported to an approved disposal facility. Used oil will be packaged in drums for transport and recycling or disposal at an approved facility. RCRA hazardous wastes expected to be generated during construction, drilling, and production operations include very small quantities of Characteristic Hazardous and Universal Wastes (as defined by 40 CFR 261.3), which will be managed on-site in Satellite Accumulation Areas, manifested and then transported to approved disposal or recycling facilities at the completion of the field operations.

F. Water Supplies

During operations, up to 5,000 gallons of potable water per day will be required for domestic use. Potable water will be transported to the camp and rig pads by water truck. For other fresh water uses, AEA has a DNR-issued temporary water use authorizations for the withdrawal of ice chips and water from area lakes. This water use will total about nine million gallons. Snow will be removed from portions of the lakes prior to water withdrawal to help provide access for water trucks and ice trimmers. Water pumped from lakes will be transported by low ground pressure vehicles or rolling stock once winter tundra travel is approved by DNR. Rolling stock will only use trails that have been improved with a firm ice surface or packed snow to support the weight and pressure of the vehicles. Snowmelt and other run-off from project facilities will be managed through implementation of AEA Best Management Practices and a Storm Water Pollution Prevention Plan pursuant to ADEC Authorization AKG332026 issued under the APDES general permit for North Slope activities (NS GP AKG32000).

G. Utilities

The Hickory 1 pad will be powered using diesel-powered generators. Phone service and internet will be available at the field camp. Hand-held radios will be used for intra-well site communications. Small communication towers may be placed at the ice pad. Potable water will be hauled to the site and domestic wastewater hauled from the site.

H. Material Sites

No material sites are needed for this project.

I. Roads

All road infrastructure built to support this project will be temporary. An ice road measuring 500 feet in length and 35 feet in width will be constructed to connect the ice pad to the Dalton Highway. AEA does not expect there to be a need for any stream crossings. The ice road will be constructed and maintained using the generally accepted practices for the North Slope, subject to DNR opening criteria for winter tundra travel in the Lower Foothills area.

J. Airstrips

No airstrips are needed for this project.

K. All Other Facilities and Equipment

A list of typical equipment used to support drilling activities is provided in Appendix A. AEA will use standard equipment commonly used by North Slope operators and contractors. Medical evacuation resources will be mobilized from Prudhoe Bay Unit to provide additional emergency response in the event of a major medical issue or fire, per an existing ballot agreement. Medical evacuation, if necessary, will be provided by ambulance, helicopter, or fixed-wing aircraft, using the ice road or Dalton Highway as an airstrip, or using Franklin Bluffs airstrip and flying or driving to the Beacon Clinic in Deadhorse for patient stabilization and/or transfer to a Medevac jet to an Anchorage hospital facility. If the weather precludes medevac operations from the ice road, the patient will be transported via ambulance to Fairweather Deadhorse Aviation Center for evacuation.

L. Rehabilitation Plan

Upon completion of drilling and evaluation operations, the wells will either be plugged and abandoned or suspended in accordance with AOGCC regulations. Equipment and structures will be removed from the project area at the end of the season. Ice pads and roads will be scraped to remove any dark-colored drips missed by the ACC spill technician, the resulting snow will be thawed and any oily water disposed of at a permitted disposal facility. Trash and debris will be removed and transported to a permitted disposal facility. AEA will conduct an inspection and “stick picking” operation in summer of 2023 and facilitate subsequent agency inspections to ensure that NSB and DNR cleanup requirements are met.

Although activities will be conducted from an ice road and ice pad, impacts to vegetation and habitat may occur. Therefore, AEA will inspect the project area, following snowmelt in 2023, to confirm that tundra damage did not occur. If tundra damage is discovered, AEA will consult with the State and the NSB to determine the appropriate methods for restoration, and incorporate them into a tundra damage rehabilitation/remediation plan (Rehab Plan) that meets the requirements found in NSBMC § 19.30, § 19.500 and § 19.60, ADL 392314 lease conditions, and other state requirements. The Rehab Plan will address the area, type, and extent of damage, as well as the appropriate course of action to return the land to an acceptable condition, as determined by the relevant agencies. The Rehab Plan will be developed in accordance with the Alaska Coastal Revegetation & Erosion Control Guide (developed by the State of Alaska Plant Materials Center), the Streambank Revegetation and Protection Guide (developed by the ADF&G), and

other relevant guidance documents. Agency personnel will be invited to verify that rehabilitation operations are complete and that any issues identified are addressed.

M. Operating Procedures Designed to Minimize Adverse Effects

Fish and Wildlife Habitats:

The pad and roads constructed of ice will only be used in winter months during the open winter tundra travel season. No stream crossings are anticipated to be necessary for Hickory 1. Willow habitats were identified and located during fieldwork in August 2017 and the ice pad and road alignments have been staked to avoid willow habitats during ice pad and road construction. In summary, all AEA activities will be conducted to minimize impacts on fish and wildlife. This includes implementing mitigation measures outlined in the lease stipulations and adherence to State of Alaska and NSB land management regulations and permit requirements. A wildlife avoidance and interaction plan, and a bear avoidance interaction plan (for both grizzly and polar bear) have been prepared and will be included in the site orientation for all Project personnel.

Historic and Archaeological Sites:

All historic, cultural, or archaeological resources that are discovered during Hickory 1 activities are not to be disturbed under any circumstance. All field personnel will be trained on procedures to ensure that these resources are not disturbed. If archaeological sites are discovered during Hickory 1 activities, the following steps will be taken: 1) project personnel discovering historical or archaeological resources during operations will not disturb materials in place at the site of discovery and will mark the area with flagging tape; 2) project personnel will stop all activities and immediately inform their job supervisor to contact AEA's on-site representative; 3) AEA will report these properties to SHPO and NSB ILHC for identification and assessment; and 4) AEA will use identification and assessment consultations to determine the appropriate course of action.

Public Use Areas:

Public access to, or use of, the lease area will not be restricted, except within the immediate vicinity of drill site, camp, associated buildings, and other related facilities. Areas of restricted access will be identified after mobilization and rig. No facilities will block access to or along navigable or public waters.

Other Uses:

AEA's training program has been designed to inform each individual of the environmental, social, and cultural concerns that relate to their job functions. Training components include a review of permit stipulations and requirements, cultural awareness, spill prevention and reporting, wildlife interaction, site specific safety, and waste management practices. All personnel will participate in a training program module for bear safety and the Bear Avoidance, Interaction, and Mitigation Plan. In addition, AEA employees and contractors are required to complete an 8-hour training program provided by the North Slope Training Cooperative. A Field Environmental Handbook, Alaska Safety Handbook, and a North Slope Visitor's Guide will be used for the training, and the training will address personal protective equipment, camp and safety orientation, hazard communication, HAZWOPER Level I, and environmental awareness. Additionally, AEA also requires that all company personnel and contractors attend rig and location safety meetings, and participate in the contractor's safety practice, on-site training orientation, and required weekly safety meetings. Topics discussed in safety meetings will

include various emergency action drills (scheduled and unscheduled), familiarizing workers with the wildlife interaction plans, warnings and hazing methods, and reporting requirements; reviewing spill/incident reporting requirements and spill prevention measures, reviewing fluid transfer procedures, and general hazard identification regarding the various chemicals used in drilling operations and other activities; and reviewing cold weather operations and personal protection.

In approving a Plan, DNR may require amendments necessary to protect the State's interest (11 AAC 83.158). The Division has determined that to protect the State's interest, it is necessary to incorporate the 2018 North Slope Mitigation Measures or the most recently adopted measures. AEA addressed these mitigation measures in the application process, but it is necessary to amend the Plan to make clear that the Plan incorporates the North Slope Mitigation Measures.

All plan applicants must complete a mitigation measure analysis demonstrating that each mitigation measure is satisfied or inapplicable to the proposed Plan, or that the applicant is seeking an exception. The North Slope Mitigation Measures allow for the Division to grant an exception if the applicant shows that compliance with the measure is not practicable or that the applicant will undertake an equal or better alternative to satisfy the intent of the mitigation measure. AEA completed the mitigation measure analysis and seeks an exception to the mitigation measure discussed below.

North Slope Mitigation Measure: A.1.e.

Notwithstanding (d) above, the siting of facilities is prohibited within one-half mile of the banks of the Colville, Canning, Sagavanirktok, Kavik, Shaviovik, Kadleroshilik, Echooka, Ivishak, Kuparuk, Toolik, Anaktuvuk, and Chandler Rivers as measured from the ordinary high-water mark. Facilities may be sited, on a case-by-case basis, within the one-half mile buffer if the lessee demonstrates that siting of such facilities outside this buffer zone is not feasible or prudent, or that the location within the buffer is environmentally preferable.

AEA provided the below request and explanation for the exception:

The planned ice pad location is just under 2,000 feet west of the Sag River. The location of the ice pad and well were determined based on the target drill areas to the east of the pad. AEA believes this location possesses no environmental risk to the Sag River since the State of Alaska raised the Dalton Highway roughly 10 feet to mitigate risk involved with flooding and river contamination. Moving the pad farther west may reduce the probability of project success in a single season. AEA believes an ice pad at this location is environmentally preferable to a multi-season gravel pad located farther west.

The intent of this measure is to minimize the impacts to water bodies from oil and gas facilities. The Division finds that AEA has shown rationale that proposed activities in the Plan equally satisfy the intent of this mitigation measure. Due to the location of the Dalton Highway between the site and the Sagavanirktok river, the intent of this mitigation measure is being met. AEA is not planning to site any permanent facilities near the Sagavanirktok River, the ice road and pad will be temporary. The Division grants an exception to this mitigation measure to allow for the Applicant's alternative as set forth in the Plan. This exception does not apply to activities that the Applicant may propose in future or amended plans of operations.

The Division has determined that to protect the State's interest, it is necessary to incorporate the North Slope Mitigation Measures as amendments and stipulations to this Plan (11 AAC 83.158(e)).

N. Phased Evaluation

The Plan addresses exploration activities for Hickory 1, but based on the results of this exploration, the Division anticipates that AEA may submit Plans for additional exploration wells. Thus, in considering the exploration phase, the Division considered both the specific activities proposed under this Plan as well as typical exploration activities that AEA might propose for further exploration.

The Division considered the potential impacts of exploration on public and state interests. In the oil and gas context, the public interest includes maximizing economic and physical recovery of oil and gas resources (AS 38.05.180(a)(1)). The State has an interest in protecting the public interest, and in encouraging assessment of oil and gas resources while minimizing the adverse impacts of exploration, development, production, and transportation activities (AS 38.05.180(a)(2)).

In considering potential impacts, the Division also considered the operating procedures AEA has designed to minimize adverse effects of the Plan activities. These operating procedures include complying with the mitigation measures attached to the leases. These measures come from the North Slope Areawide Best Interest Finding (BIF) to address potentially negative effects of oil and gas exploration on fish and wildlife species, habitats and their uses, subsistence uses and local communities. AEA has provided a mitigation measure analysis, which is required as part of their Plan submittal.

i. Facilities impacts on the project area.

All facilities will be temporary and have been designed to meet federal and state requirements as well as those of the NSB. The proposed facilities will all be placed on ice pads and there will be no new gravel placement to support the Plan. Demobilization of the facilities is proposed to begin in April 2023, and will be in accordance with 2018 North Slope Mitigation Measure A.1.n.

ii. Fuel and hazardous substances potential impacts on the project area

The exploratory drilling proposed under the Plan, as well as other exploratory drilling AEA might propose during the exploration phase, will result in drilling muds, cuttings, and produced water and pose some risk of a spill. Discharges of drilling muds, cuttings, and produced waters; oil spills; and accidental spills of fuel, lubricants, or chemicals can all have impacts to water, wildlife, and habitats during this exploration program. Impacts from exploration activities, from either disposal activities or a spill, could adversely affect water quality, but impacts are expected to be localized and temporary because of dilution, settling, and other natural altering and regenerative processes. In addition, the proposed operation will take place on an ice pad, which minimizes impact from spills.

Drilling and Produced Water:

Byproducts of drilling activities include muds and cuttings, produced water, and associated wastes. Produced water contains naturally occurring substances such as clay, sand, oil, water, and gas. Most drilling wastes are disposed of under ADEC's solid waste disposal program and

re-injection is the preferred method for disposal of drilling fluid. Most oil field wastes are considered non-hazardous and waste fluids are recycled, filtered, and treated before re-injection or disposal. Cuttings and waste fluids must be made non-hazardous before injection. Produced water is treated using heat, gravity settling, and gas flotation devices to remove hydrocarbons. After treatment, produced water is re-injected into either the oil-bearing formation to maintain pressure and enhance recovery or into an approved disposal well. Cuttings disposal is done through grinding and injecting on-site, or cuttings are transported to an approved disposal site. Wastewater, including sanitary and domestic graywater, is also treated to meet effluent guidelines before discharge.

During exploration drilling, muds and cuttings are stored on-site in holding tanks or in a temporary storage area and then hauled to an approved solid waste disposal site or re-injected into the subsurface at an approved injection well. All production muds and cuttings on the North Slope are re-injected into a Class II injection well. All produced waters are re-injected either into the producing formation or into an injection well. AOGCC oversees proper and safe handling and disposal of drilling wastes and oversees the underground operation of the Alaska oil and gas industry on private and public lands and waters. AOGCC also administers the Underground Injection Control Program (UIC) for oil and gas wells, acts to prevent waste of oil and gas resources and ensure maximum recovery, and protects subsurface property rights. All disposal wells inject fluids deep beneath any drinking water aquifers. North Slope Mitigation Measure A.4.j states that the preferred method for disposal of muds and cuttings from oil and gas activities is by underground injection.

AEA's Plan states that waste drilling muds and cuttings will be trucked to an approved Class II well for processing and disposal as approved by AOGCC. Drilling waste will not be stored on site.

Accidental Spills:

Impacts resulting from accidental spills would depend on the type of product, the location, volume, season, and duration of the spill or leak, and the effectiveness of the cleanup response. Heavy equipment, such as trucks, tracked vehicles, and tank trucks, commonly use diesel fuel, gasoline, motor oil, hydraulic fluid, antifreeze, and other lubricants. Spills or leaks could result from accidents, improper refueling procedures, or from corrosion of lines. Under standard DNR permit conditions for off-road activity, secondary containment must be provided at fuel hazardous substance storage and transfer areas. A secondary containment or surface liner must be placed under all container or vehicle fuel tank inlet and outlet points, and appropriate spill response equipment must be on hand during any transfer or handling of fuel or hazardous substances.

Oil Spills:

The maximum extent of an oil spill during the project is limited due to the short season and temporary nature of exploration programs. There are no proposed production activities, or construction and operation of permanent facilities or pipelines. AEA has proposed temporary activities during winter months, and the Division anticipates any future exploratory drilling would likely take place during the winter when the risk from spills is lower.

Mitigation measures include siting facilities away from fish-bearing streams and lakes, development of oil spill contingency plans, and providing adequate spill response training. North

Slope Mitigation Measures require that sites be protected from leaking or dripping fuel and hazardous substances; secondary containment be placed under all container or vehicle fuel tank inlet and outlet points, hose connections, and hose ends during fuel or hazardous substance transfers; vehicles cannot be refueled within the annual floodplain; containers must be marked with the contents and lessee/contractor name; waste from operations be reduced, reused, or recycled to the maximum extent practicable; muds and cuttings should be disposed of by underground injection, where practicable; and that proper disposal of garbage and putrescible waste be utilized.

AEA's North Slope Mitigation Measure Analysis states fuel and hazardous substances will be stored at least 100 feet from any waterbody and at least 1,500 feet from current surface drinking water sources (A.4.a); drip pans or surface liners will be placed under parked vehicles or equipment to capture fluids (A.4.b); surface liners will be used under all potential spill points; adequate sorbents are on hand during fuel transfers, and personnel will be properly trained and understand proper procedures for handling flammable and combustible fluids (A.4.c); all containers with fuel or hazardous substances will be labeled with the contents and lessee's/contractor's name (A.4.e); and solid burnable waste may be incinerated in location. All wastes generated as part of operations will be hauled off-site for disposal at an approved facility (A.4.g).

iii. Habitat, Fish, Wildlife and Subsistence

Habitat

Any exploration activity can impact habitat, fish, and wildlife. The North Slope Mitigation Measures are designed to minimize these impacts. The Plan activities will take place over a limited time and involve ice roads and pads, and temporary facilities. Due to the location and relatively close proximity to the Dalton Highway, the Division anticipates impacts to habitat, fish, and wildlife will be limited and temporary. AEA is expected to adhere to ADF&G and USFWS permitting requirements and stipulations.

Fish

The Sagavanirktok River is an anadromous stream, supporting the spawning and overwintering of several species of fish that then migrate to nearshore coastal waters to feed in the summer. Migration patterns vary by species and within species by life stage. Potential effects of exploration activities include degradation of stream banks and erosion, reduction of or damage to overwintering areas, impediments to migration, and fish kills due to oil spills. A potential habitat impact at the exploration phase is erosion. Erosion results in siltation and sedimentation, which in turn may result in a reduced or altered stream flow that may affect overwintering habitat availability and the ability of fish to migrate upstream. Protecting the integrity of stream bank vegetation and minimizing erosion are important elements in preserving fish habitat. Streambeds could be affected if stream banks are altered from equipment crossings.

Withdrawal of water from lakes and ponds could affect fish overwintering habitat by entraining juvenile fish, lowering water levels, and increasing disturbance. Removal of water from lakes where fish overwinter may affect the viability of overwintering fish, and longer-term effects of lake drawdown may impede the ability of fish to return to the lake in subsequent years. Removal of snow from lakes may increase the freeze depth of the ice, kill overwintering and resident fish, and adversely affect the ability of fish to utilize the lake in future years.

North Slope Mitigation Measure A.2.b requires that removal of water from fish-bearing rivers, streams, and natural lakes have prior written approval by DNR and ADF&G. Water intake pipes used to remove water from fish-bearing waterbodies must be surrounded by a screened enclosure to prevent fish entrainment and impingement, with screen mesh size no greater than one mm (0.04 inches), unless another size is approved by ADF&G. The maximum water velocity at the surface of the screen enclosure may be no greater than 0.1 foot per second, unless an alternative has been approved by ADF&G.

Before a permit to appropriate water is issued, DNR considers local demand and may require applicants to conduct aquifer yield studies. Generally, water table declines associated with the upper unconfined aquifer can be best mitigated by industrial users tapping confined (lower) layers or searching for alternate water sources.

Wildlife

Exploration-related disturbance is expected to have minor impacts on caribou, particularly large groups, with animals being briefly displaced from feeding and resting areas when vehicles pass nearby. Vehicle traffic associated with transportation corridors, such as the Dalton Highway, has the potential to affect habitat use. Acute disturbance effects may in combination result in a cumulative effect on habitat availability for those individuals with fidelity to the Kuparuk River calving area, but may have little or no effect on the Central Arctic herd population. It is expected these disturbances would be short term.

Moose are present across the North Slope, with the largest concentration along the Colville River and its tributaries. Moose generally remain in the foothills and along river corridors. AEA's proposed drilling program is expected to have little effect on the North Slope moose population.

The temporary displacement of some polar bears from preferred habitats may result from routine exploration activities such as the proposed Plan activities and activities AEA proposes throughout the exploration phase. Females in dens are at risk for disturbance from any vehicular traffic or noise. Due to its proximity to existing transportation infrastructure, the Hickory 1 project is unlikely to significantly increase temporary displacement and disturbance above the level caused by existing transportation activities.

Polar bears continually search for food. Once bears find a camp or industrial site, they will often enter to explore and search for food. If a bear receives a food reward, then it is more likely to return. Polar bears often investigate not only things that smell or act like food, but also novel sights or odors. Subadult bears are more likely than well-fed bears to be food-stressed and attracted to human activity. Subadults are also less likely to leave if a potential food source is present. Attractants include kitchen odors, deliberate feeding, accessible garbage, sewage lagoons, carcasses, industrial materials, and alteration of habitat.

Brown bears can be found throughout the Arctic region in varying densities. The lowest densities occur along the coastal plain; brown bears are at the northern limits of their range in the Arctic. The availability of food is limited and their reproductive potential is low. Brown bears may be subject to disturbance from oil and gas activity. During exploration, human activity may attract foraging bears, especially to refuse disposal areas. Omnivores are attracted to food and food odors associated with human activity and may become conditioned to non-natural food sources.

This may pose a threat to human safety and the potential need to dispatch nuisance animals. Bears can also be displaced by human land use activities.

There are several regulations imposed by state, federal, and local agencies that are implemented to avoid, minimize, and mitigate these potential effects to bears. In addition to complying with the Endangered Species Act and the Marine Mammal Protection Act, AEA must comply with mitigation measures to minimize effects of exploration activities on bears.

Subsistence

Traditional subsistence uses in the area include: brown bear, caribou, musk ox, and moose harvesting; hunting and trapping of furbearers such as wolf, fox, weasel, wolverine, and squirrel; hunting migratory waterfowl and collecting their eggs; fishing for whitefish, char, salmon, smelt, grayling, trout, and burbot; and collecting berries, edible plants, and wood.

Potential exploration activities that could have effects on subsistence uses in the area include discharges from well drilling and ongoing disturbances from operation activities such as vehicle traffic. Noise, traffic disturbance, and oil spills generally produce short-term impacts on subsistence species.

The North Slope Areawide BIF contains several mitigation measures intended to reduce conflicts with subsistence, commercial, and sport harvest activities. Prior to submitting a Plan to the Division, the lessee must consult with affected subsistence communities and the NSB to discuss reasonably foreseeable effects on subsistence during the proposed operations, and methods of proposed operations and safeguards or mitigation measures that can be implemented to prevent unreasonable conflicts. The lessee must make reasonable efforts to ensure that the proposed exploration activities are compatible with subsistence hunting and fishing and will not result in unreasonable interference with subsistence harvests. The Division may implement restrictions, as appropriate, to reduce potential conflicts.

iv. Historic or archeological sites

While exploring, AEA could encounter prehistoric, historic, or archaeological sites. AS 41.35.200 addresses unlawful acts concerning cultural and historical resources. In addition, all field-based response workers are required to adhere to historic properties protection policies that reinforce that it is unlawful to collect or disturb, remove, or destroy any historic property or suspected historic property, and to immediately report any historic property that they see or encounter.

Under NSBMC, proposed exploration shall not impact any historic, prehistoric, or archaeological resource before the assessment of that resource by a professional archaeologist (NSBMC 19.50.030(F)). NSBMC 19.70.050(F) says, "Development shall not significantly interfere with traditional activities at cultural or historic sites identified in the Coastal Management Program." These provisions give the NSB authority to protect cultural and historic resources and current subsistence uses of these sites.

North Slope Mitigation Measures require the lessee to conduct an inventory of prehistoric, historic, and archaeological sites within the area affected by an activity. The inventory must include consideration of literature provided by the NSB, nearby communities, Native organizations, and local residents; documentation of oral history regarding prehistoric and

historic uses of such sites; evidence of consultation with the Alaska Heritage Resources Survey and the National Register of Historic Places; and site surveys. The inventory must also include a detailed analysis of the effects that might result from the activity. A cultural resources survey and inventory was conducted in the project area to identify any prehistoric, historic, or archaeological sites. AEA has obtained cultural clearances from the SHPO and NSB Cultural Resources Department on potential historical and archaeological resources. No sites are proposed that would impact cultural, historical or archaeological resources.

V. CONSIDERATION OF LEASE PLAN OF OPERATIONS REQUIREMENTS UNDER
11 AAC 83.158(c-d) and 11 AAC 83.160

A. Full Payment of Damages to the Surface Owner 11 AAC 83.158(c)

The State owns the surface and full payment of damages to the State are accomplished through the bond posted by the applicant discussed in subsection C below.

B. Plan Sufficiency 11 AAC 83.158(d)

A proposed plan must include statements, maps, or drawings setting forth:

- (1) the sequence and schedule of operations;
- (2) the projected use requirements directly associated with the proposed operations;
- (3) plans for rehabilitation; and
- (4) a description of operating procedures to prevent or minimize adverse effects on natural resources and concurrent uses of the area (11 AAC 83.158(d)).

The information in Section IV: Proposed Operations, and additional information contained in AEA's proposed Plan satisfy the requirements for a Plan under 11 AAC 83.158(d) and thus provide the Division with sufficient information to determine the surface use requirements and impacts directly associated with the proposed operations.

C. Oil and Gas Lease Bond 11 AAC 83.160

The State owns all the surface land where the proposed Plan activities will be located. The State owns all the mineral estate the Plan proposes to explore. A lessee provides for payment of damages by posting a bond before operations commence and remains liable for full damages under the lease. AEA has a cash trust account in the amount of \$100,000 for operations on ADL 392314 and continuing liability under the lease.

VI. CONSULTATION WITH OTHER GOVERNMENT ENTITIES

In reviewing the proposed Plan, the Division considered the fact that AEA may require approvals from Agencies for other elements of its project. Although mentioned in the Plan and above, these aspects of the project are not operations being approved by this decision and the Division offers no opinion on whether an agency should or should not approve these activities.

In addition to considering the approvals required by Agencies as they relate to this decision, the Division provided an agency review and comment opportunity for the activities proposed for authorization under this decision. The following government entities were notified on November 18, 2022, for comment on the Plan: USACE, ADF&G, ADEC, DOT, DMLW, USFWS, and NSB. The comment deadline was 4:30 pm Alaska time on December 2, 2022. Comments were received and the Division, Applicant, and commenting agencies reconciled the comments without modifying the Plan; agency comments are summarized in Appendix B.

VII. PUBLIC NOTICE

Public notice of the Plan and opportunity to comment, per AS 38.05.035, was published in the Anchorage Daily News on December 9 and December 16, 2022, and the Arctic Sounder on December 15 and December 29, 2022, with a deadline for comments of January 9, 2023, at 4:30 pm Alaska time. Additionally, a copy of the notice was posted on DNR's web site and faxes of the public notice were sent to the Nuiqsut, Deadhorse, and Utqiagvik post offices. No comments were received.

VIII. CONDITIONS OF APPROVAL

Having considered the proposed project, the Division approves the Plan as amended and modified by this decision and subject to the following Conditions of Approval.

To protect the State's interest, the Division finds that it is necessary to amend the Plan to incorporate the following Conditions of Approval:

- a) The applicant shall defend, indemnify and hold the State of Alaska harmless from and against any and all claims, damages, suits, losses, liabilities and expenses for injury to or death of persons and damage to or loss of property arising out of or in connection with the entry on and use of State lands authorized under this approval by the applicant, its contractors, subcontractors and their employees.
- b) The applicant shall inform and ensure compliance with any and all conditions of this approval by its employees, agents and contractors, including subcontractors at any level.
- c) Unless pre-authorized by a general permit, amendments and modifications to this approval require advance notice and must be approved in writing by the DNR.
- d) The DNR Commissioner may require that an authorized representative be on-site during any operations conducted under this approval. This stipulation is required to ensure that the Division of Oil and Gas meets its statutory responsibilities for monitoring activities taking place on State-owned lands.
- e) A status report for the activities conducted under this approval must be filed on May 1 and November 1 each year, from the date this approval is issued and until a final completion report is filed with the Division. If a lessee requests an assignment, then a status report must also be submitted during the assignment process. Failure to file in a timely manner may result in revocation of this approval.
 - a. Each status report shall include a statement describing and map(s) depicting all operations actually conducted on the leased area as of the date the report is prepared, which includes the location, design and completion status of well sites, material sites, water supplies, solid waste sites, buildings, roads, utilities, airstrips, and all other facilities and equipment installed.
 - b. Upon completion of operations, the applicant will submit a completion report that will include all information required of a status report described in (a) above as well as a statement indicating the date of operations completion, any noncompliance with the terms of this plan approval of which a reasonable lessee would have knowledge of, clean-up activities conducted, the method of debris disposal, and a narrative description of known incidents of surface damage.
- f) Notification. The applicant shall notify the DNR of all spills that must be reported under 18 AAC 75.300 under timelines established therein. All fires and explosions must be

reported to DNR immediately. Notification of discharge must be made to the appropriate DNR Office, preferably by email: dnr.nro.spill@alaska.gov, or (907) 451-2739. DOG must be notified by email: dog.permitting@alaska.gov. The ADEC oil spill report number is (800) 478-9300. DNR and ADEC shall be supplied with all follow-up incident reports.

- g) A certified As-Built survey of the improvement shall be provided within one year of placement of the improvement. This As-Built must be submitted in both electronic and physical format.

To protect the State's interest, the Division finds that it is necessary to amend the Plan to incorporate the following project-specific stipulations:

1. The applicant must coordinate with Red Mountain Consulting LLC, to ensure that any summer activities do not conflict with ongoing trench rehabilitation efforts in the vicinity.
2. Exploration Phase Reporting. While active exploration operations authorized by this permit are being conducted, the applicant will provide a bi-weekly report to the Division, summarizing activities undertaken and their location within the permit area. The frequency and substance of these reports may be modified to the satisfaction of the Division, as needed.

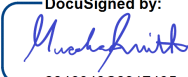
IX. FINDINGS AND DECISION

Having considered the proposed project and based on the foregoing discussion and consideration of issues and conditions of approval, the Division makes the following findings:

1. The Plan provides sufficient information, based on reasonably available data, for the Division to determine the surface use requirements and impacts directly associated with the proposed operations.
2. The Plan includes statements, maps, or drawings setting forth the sequence and schedule of operations, projected use requirements, description of operating procedures, and a plan of rehabilitation designed to prevent or minimize adverse effects.
3. To protect the State's interest and mitigate potential adverse social and environmental effects associated with the Plan, the Division finds it necessary to amend the Plan to incorporate the mitigation measures set forth in the North Slope Areawide Oil and Gas Lease Sale Final Finding.
4. All oil and gas activities conducted under oil and gas leases are subject to numerous local, state, and federal laws and regulations with which AEA is expected to comply.
5. The people of Alaska have an interest in developing the state's oil and gas resources and maximizing the economic and physical recovery of those resources. AS 38.05.180(a).
6. Alaska's economy depends heavily on revenues related to oil and gas production and government spending resulting from those revenues. The related revenue sources include bonus payments, rentals, royalties, production taxes, income taxes, and oil and gas property taxes.
7. AEA requests an exemption to mitigation measures A.1.e. The Division has reviewed this request and grants an exemption to this mitigation measure to allow for the Applicant's alternatives set forth in the Plan.
8. The potential benefits of approving this Plan outweigh the possible adverse effects, which have been minimized through imposition of mitigation measures, conditions of approval, and project specific stipulations, and thus approval of this Plan as modified is in the State's best interest.

Based upon the Plan, supporting information provided by the applicant and the Division's review; determination of applicable statutes and regulations; consultation with other agencies, relevant entities and individuals; public comment; and the above findings related to that Plan, the Division hereby approves the Plan.

Sincerely,

DocuSigned by:

2846043C8317495...

2/23/2023

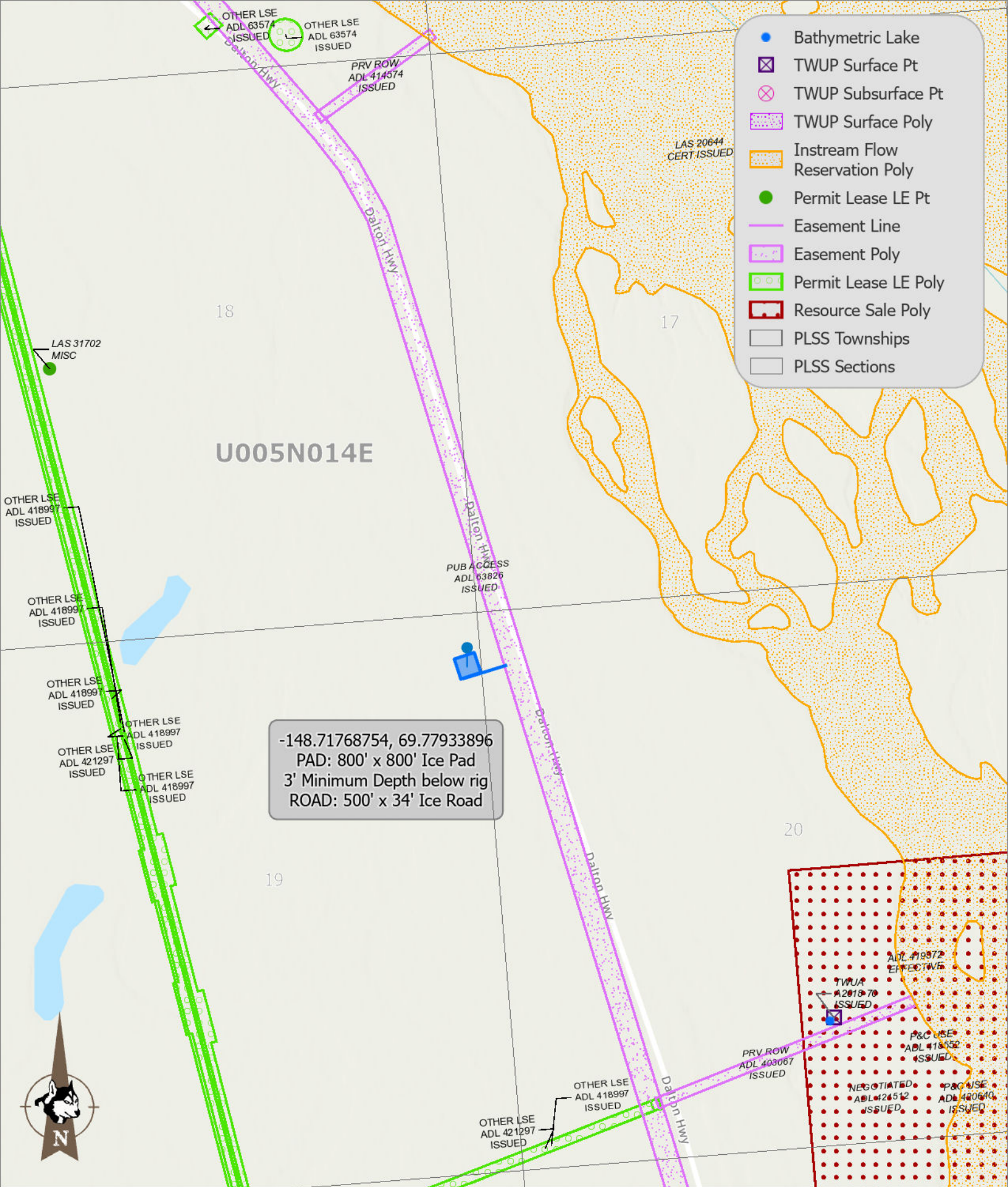
Graham Smith
Petroleum Land Manager
Division of Oil and Gas

Date

A person affected by this decision may appeal it, in accordance with 11 AAC 02. Any appeal must be received within 20 calendar days after the date of "issuance" of this decision, as defined in 11 AAC 02.040(c) and (d) and may be mailed or delivered to the Commissioner, Department of Natural Resources, 550 W. 7th Avenue, Suite 1400, Anchorage, Alaska 99501; faxed to 1-907-269-8918, or sent by electronic mail to dnr.appeals@alaska.gov. Under 11 AAC 02.030, appeals and requests for reconsideration filed under 11 AAC 02 must be accompanied by the fee established in 11 AAC 05.160(d)(1)(F), which has been set at \$200 under the provisions of 11 AAC 05.160 (a) and (b). This decision takes effect immediately. If no appeal is filed by the appeal deadline, this decision becomes a final administrative order and decision of the department on the 31st calendar day after issuance. An eligible person must first appeal this decision in accordance with 11 AAC 02 before appealing this decision to Superior Court. A copy of 11 AAC 02 may be obtained from any regional information office of the Department of Natural Resources.

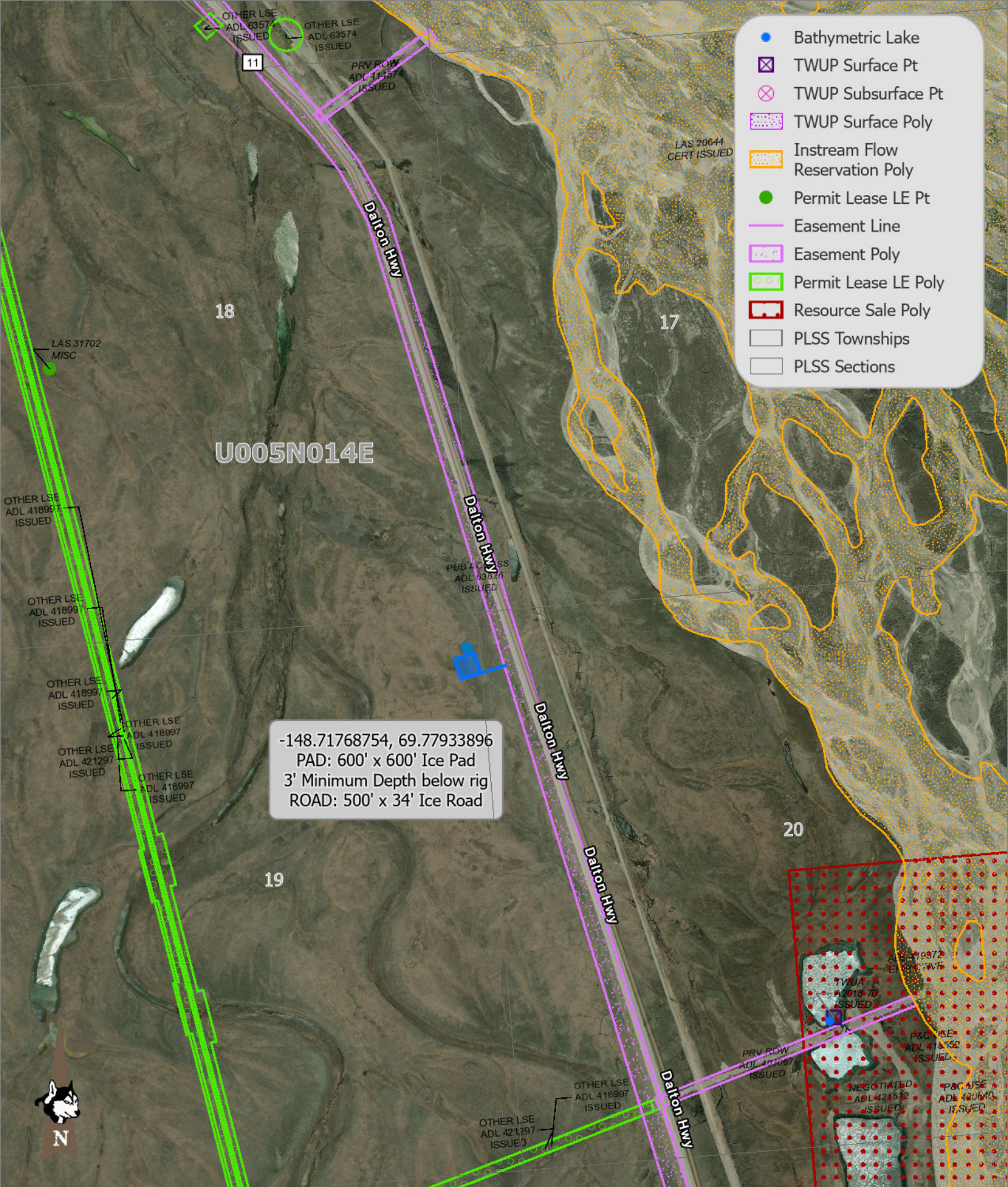
Attachments: Appendix A: Maps and Figures
Appendix B: Agency Comments
2018 North Slope Mitigation Measures

ecc: DOG: James Hyun, Alexander Zinck, Hayley Beitel, Molly Fenton, DOG Units and SPCO Records
DMLW: Northern Region Office, SAIL and Henry Brooks
ADF&G: Maria Wessel and Chelsea Clawson
ADEC: Laurie Silfven, DEC Water Oil and Gas, DEC Agency Reviews, and ADEC Contaminated Sites
NSB: Planning Permitting
Other: USACE and USFWS



Hickory 1
ADL 392314

State of Alaska, Esri, HERE, Garmin, SafeGraph, METI/NASA, USGS, EPA, NPS, US Census Bureau, USDA, State of Alaska, Esri, HERE, Garmin, FAO, NOAA, USGS, EPA, NPS, GIS Services Unit - DNR, Esri, USGS



- Bathymetric Lake
- ⊠ TWUP Surface Pt
- ⊗ TWUP Subsurface Pt
- ▨ TWUP Surface Poly
- ▨ Instream Flow Reservation Poly
- Permit Lease LE Pt
- Easement Line
- ▨ Easement Poly
- ▨ Permit Lease LE Poly
- ▨ Resource Sale Poly
- ▨ PLSS Townships
- ▨ PLSS Sections

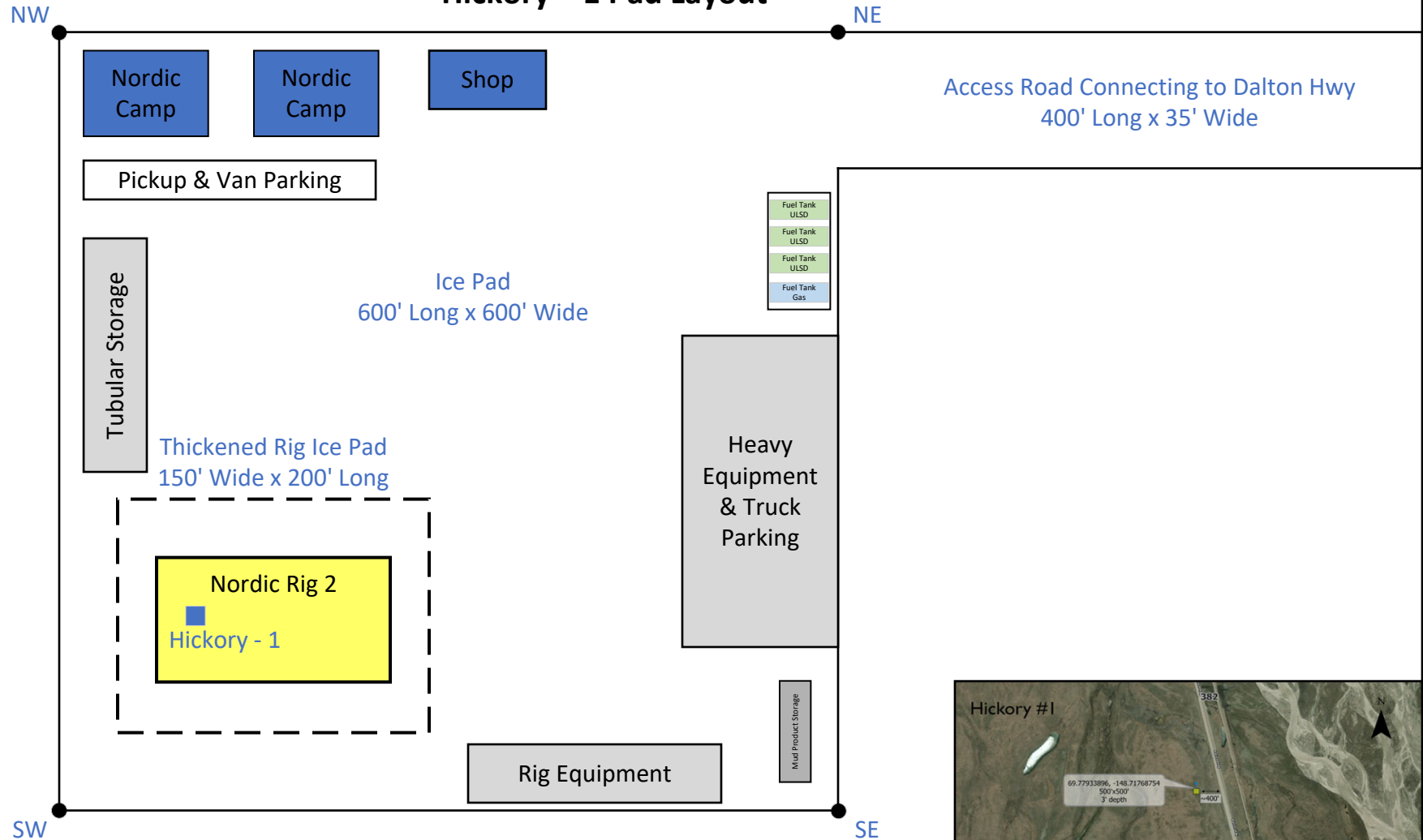
-148.71768754, 69.77933896
PAD: 600' x 600' Ice Pad
3' Minimum Depth below rig
ROAD: 500' x 34' Ice Road

Hickory 1
ADL 392314

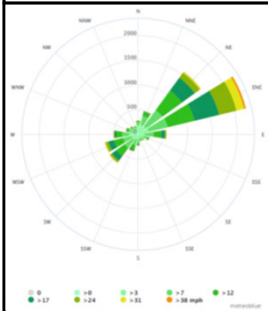
State of Alaska, Esri, HERE, Garmin, SafeGraph, METI/NASA, USGS, EPA, NPS, US Census Bureau, USDA, State of Alaska, Esri, HERE, Garmin, FAO, NOAA, USGS, EPA, NPS, GIS Services Unit - DNR, Esri, USGS, Maxar, Vivid



Accumulate Energy Alaska, Inc Hickory – 1 Pad Layout



Prevailing Wind Direction



November 2, 2022

Version: 1.1

Accumulate Energy Alaska, Inc
Winter 2022 / 2023 Exploration Ice Pad Layout
Well: Hickory 1



Attachment B: Agency Review Comments

Division of Mining, Land, and Water Northern Regional Office Leases and Material Sales Section:

AEA's proposed activities may overlap a DMLW issued land use permit LAS 33376 to GCI Communication Corp, which contracted Red Mountain Consulting LLC to conduct tundra rehabilitation activities associated with the fiber optic trench which runs parallel on the west side of the Dalton Highway. According to the 2022 completion report, there has been significant rehabilitation to sections of the tundra between MP 360 and 414 with additional sites TBD in the summer 2023. During the summer months, while AEA is conducting cleanup activities the fiber optic trench next to the highway should be avoided as much as possible to reduce the potential impact to the rehabilitation that may be compromised if there is travel across or too near it.

DMLW requests that AEA contact and coordinate with Red Mountain Consulting LLC, if AEA's proposed activities are anticipated to affect the rehabilitation efforts.

Division Response:

Comment noted and forward to applicant. Included in the decision is a project-specific stipulation that requires AEA to coordinate with Red Mountain Consulting LLC prior to conducting any activities on or near the site in the summer to address any concerns related to ongoing rehabilitation activities in the vicinity.

Division of Mining, Land and Water Statewide Abatement of Impaired Land Section Comment:

Thank you for the opportunity to review the proposed LONS 22-009 Accumulate Energy Alaska (AEA) Hickory #1 Lease Plan of Operations. The only comment SAIL has is in recommending that AEA reach out to DEC's Prevention Preparedness and Response Program regarding Accumulate's Oil Discharge Prevention and Contingency Plan (ODPCP) CP-5241. Per the most recent version on file, 20-CP-5241, the ODPCP (enclosed) is approved for the Icewine Project that covers the Bravo #1 exploration well. Per condition #8 of the ODPCP a revision or amendment may be needed to cover the proposed Hickory #1 project prior to commencing drilling activities (18 AAC 75.415). SAIL has no other comments or objections to the proposed project as described in the enclosed application.

Division Response:

Comment noted. AEA and DEC have been coordinating to ensure they have an appropriate ODPCP in place that meets DEC requirements.

Division of Oil and Gas, State Pipeline Coordinator's Section:

The State Pipeline Coordinator's Section (SPCS) reviewed the Accumulate Energy Alaska (AEA) Hickory 1 lease plan of operations application. The following AS 38.35 pipeline right-of-way is in the vicinity of the proposed action.

- Trans-Alaska Pipeline System (ADL 63574)

The proposed lease plan of operations (ADL 392314) will cross a portion of a AS 38.35 pipeline, the Trans Alaska Pipeline System (TAPS). The SPCS requests AEA coordinate with the pipeline lessee and receive a letter of non-objection from Alyeska Pipeline Service Company (APSC) before the project begins.

Trans-Alaska Pipeline System, ADL 63574

Alyeska Pipeline Service Company

Peter Nagel, Sr. Lands Manager

P.O. Box 196660

Anchorage, AK 99519-6660

(907) 787-8170

peter.nagel@alyeska-pipeline.com

Division Response:

Comment noted and forward to applicant.